REMARKS

Claim 1 is amended by incorporating the subject matter of claim 11. Claims 11 and 12 are canceled. No new matter is presented.

I. Response to Obviousness-type Double Patenting Rejection

At pages 2-3 of the Office Action, claims 1-5 and 8-18, 20-26 and 28-29 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as allegedly being unpatentable over claims 1, 2, 4, 6, 8-11, 13-15 and 16-20 of copending Application No. 10/583,711, essentially for the reasons of record.

At pages 4-5 of the Office Action, claims 1-5 and 8-29 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as allegedly being unpatentable over claims 1-4, 6-12, 15-22, 23, 26. 28-31 and 40 of copending Application No. 10/583,712, essentially for the reasons of record.

At pages 5-6 of the Office Action, claims 1-5, 8-10 and 12-18 and 20-26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as allegedly being unpatentable over claims 1-4, 6-10, 12, 13, 15-22 and 24 of copending Application No. 10/583,339.

Applicants request that the provisional obviousness-type double patenting rejections be held in abeyance, and reserve the right to amend the claims or file a terminal disclaimer at a later date.

II. Response to Claim Rejections - 35 U.S.C. § 112

Claims 19 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite with respect to the definition of nkat/g.

Applicants traverse and respectfully request the Examiner to reconsider in view of the following remarks.

In the present invention, the laccase activity was determined using ABTS (2,2'-azino-bis(3-ethylbenzthiazoline-6-sulphonic acid)) as a substrate. The activity of laccase was measured at room temperature using pH 4.5 as the determination pH and expressed in nanokatals (nkat). The SI unit of catalytic activity is defined as the amount of enzyme activity that converts 1 mol of substrate per second in the assay conditions. The specific conditions of each chemical reaction are described in the working examples so that enzyme activity can be calculated in katals for each condition.

In view of the foregoing, a person having ordinary skill in the art would be able to ascertain the definition of enzyme activity with respect to the present invention. The document by Niku-Paavola et al. [1988][1] is enclosed herewith to provide evidence of what is known in the art. In the document by Niku-Paavola et al. [1988], laccase activity is calculated in the same way as that of the present invention.

In view of the above, it is respectfully requested that the § 112, second paragraph, of claims 19 and 27 be withdrawn.

III. Response to Claim Rejections - 35 U.S.C. § 102 and §103

A. Pederson

Claims 1-6, 8-10, 12-18, 20-26 and 28-29 are rejected under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent 6,187,136 PEDERSON et al., hereinafter "Pederson"

[1] Niku-Paavola M-L, Karhunen E, Salola P, Raunio V. Lignolytic enzymes of the white-rot fungus *Phlebia radiata*. Biochem. J. 1988:254; 877-884 was previously submitted.

as evidenced by Association constant of conductive poly(o-phenylendiamine) with halogenic ions by YANO et al., hereinafter "Yano".

Claims 19 and 27 are rejected under 35 U.S.C. §102(b) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Pederson for the reasons of record.

Claims 11 and 30 is rejected under 35 U.S.C. §103(a) as being unpatentable over Pederson for the reasons of record.

Without conceding the merits of the rejection, claim 1 is amended herein to recite that the bifunctional substance and the monomer are different, thereby emphasizing the difference between the present invention and the teachings of Pederson since Pederson does not describe a process utilizing separate substances in a two-step or multi-step process, as described in amended claim 1. Thus, for at least this reason, the present invention as recited in claim 1 and its dependent claims is not anticipated nor rendered obvious by Pederson.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

B. Bartholomew

Claims 1-6, 8, 9, 12-13, 15, and 21-26 are rejected under 35 U.S.C. §102(b) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over U.S. Patent 5,211,810 BARTHOLOMEW et al., hereinafter "Bartholomew", for the reasons of record.

Claim 11 is rejected under 35 U.S.C. §103(a) as being unpatentable over Bartholomew, for the reasons of record.

Without conceding the merits of the rejection, claim 1 is amended herein to recite that the bifunctional substance and the monomer are different, thereby emphasizing the difference between the present invention and the teachings of Bartholomew since Bartholomew does not

describe a process utilizing separate substances in a two-step or multi-step process, as described in amended claim 1. Thus, for at east this reason, the present invention is not anticipated nor rendered obvious by Bartholomew.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

C. Bartholomew in view of Pederson

Claims 14, 16-20, and 27-30 are rejected under 35 U.S.C. §103(a) as being unpatentable over Bartholomew et al in view of Pederson, for the reasons of record.

Applicants respectfully traverse the rejection. Neither of Bartholomew or Pederson describes a process utilizing separate substances in a two-step or multi-step process, as described in amended claim 1. Thus, even if combined, the present invention would not have been achieved. For at least this reason, the present invention is not rendered obvious over the cited references, whether taken alone or in combination.

Further, as stated in our previous comments, there is no indication that the advantages of the present invention could be achieved using a combination of the teachings of Bartholomew with the teachings of Pederson.

According to the Examples of the present application, both chemical and enzymatic binding of the primer component to the fiber prior to the polymerization, provides a conductive fibrous material that cannot be achieved without the use of primer (p. 15, Table 1). However, according to Bartholomew, the conductive polymer that has been polymerized by chemical oxidation is simply in the form of a pigment that is spread mechanically onto the surface of the fibrous material.

The primer components of the present invention that are to be attached to the fiber cannot disturb the polymerization, whereby they are preferably selected among the monomers of conductive polymers. The components mentioned by Pederson are not such monomers, and neither are the components mentioned by Bartholomew.

Due to the above significant differences, the present invention is not rendered obvious.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

D. Pederson in view of Bartholomew

Claims 1-6, 8-11, and 13-30 are rejected under 35 U.S.C. §103(a) as being unpatentable over Pederson in view of Bartholomew.

Applicants respectfully traverse the rejection. Neither of Pederson or Bartholomew describes a process utilizing separate substances in a two-step or multi-step process, as described in amended claim 1. Thus, even if combined, the present invention would not have been achieved. For at least this reason, the present invention is not rendered obvious over the cited references, whether taken alone or in combination.

Further, as stated in our previous comments, there is no indication that the advantages of the present invention could be achieved using a combination of the teachings of Pederson with the teachings of Bartholomew.

According to the Examples of the present application, both chemical and enzymatic binding of the primer component to the fiber prior to the polymerization, provides a conductive fibrous material that cannot be achieved without the use of primer (p. 15, Table 1). However, according to Bartholomew, the conductive polymer that has been polymerized by chemical

oxidation is simply in the form of a pigment that is spread mechanically onto the surface of the fibrous material.

The primer components of the present invention that are to be attached to the fiber cannot disturb the polymerization, whereby they are preferably selected among the monomers of conductive polymers. The components mentioned by Pederson are not such monomers, and neither are the components mentioned by Bartholomew.

Due to the above significant differences, the present invention is not rendered obvious.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

E. Garnett

Claims 1-4, 12, 23, 25-26 and 28-29 are rejected under 35 U.S.C. §102(b) as being anticipated by Garnett as evidenced by "Structure analysis of conductive polymer systems, Poly-4-vinylpyridine and poly(butadiene-b-4- vinylpyridine) with 7,7',8,8'-tetracyanoquinodimethane by Kempf et al.

Without conceding the merits of the rejection, claim 1 is amended herein by incorporating the subject matter of claim 11, which is not included in the rejection. That is, as admitted by the Examiner, Garnett does not disclose, teach or suggest the claimed invention wherein the bifunctional substance and the monomer are different. Thus, the claimed invention is not anticipated by Garnett for at least this reason.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

IV. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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